

Remarks

Claims 1 and 7 had been rejected under 35 U.S.C. §102(b) as being anticipated by Ishii, Patent No. 5,957,229. This rejection is respectfully traversed. Claims 1 and 7 call for valves that are not present in the Ishii '229 reference. Specifically, Claim 1 calls for first and second valves that are "located between the high pressure and low pressure side of the first closed hydraulic loop to reduce the pressure rise rate" when the respective hydraulic pump is engaged. Valves 31 and 32 in the Ishii '229 reference are not located between the high pressure side and the low pressure side. Rather, these are check valves. *See*, Ishii Col. 8, line 11.

As is known in the art, check valves in a hydrostatic transmission are used to provide an inlet for makeup fluid to the low pressure side of the closed circuit hydraulic loop such as it is disclosed in Ishii. This is how check valves 31L, 32L, 31R and 32R are described in Ishii, where it is shown that they are open to oil supply passage 5c located at the bottom of pump mounting surface 5a. Thus, these check valves are used to pull oil into the circuit from the sump. In Ishii, there are no valves located between the two sides of the hydraulic circuits such as required by the claims. The Ishii reference also mentions relief valves (that are not shown) to adjust discharge oil to a predetermined oil pressure. However, these relief valves are again connected to discharge side oil passages 10b which communicate with oil supply passage 5c and thus are connected to the sump.

Claim 7 of the subject application requires that "each valve block comprises a pressure rise rate valve so that, when the first side is under pressure, hydraulic fluid will flow from the first side to the second side of the loop, when the pressure rise rate in the first side exceeds a selected level." Again, the Ishii '229 reference does not disclose any pressure rise rate valve that will permit hydraulic fluid to flow from the first side to the second side. The check valves

simply control input of fluid to the closed circuit, and the relief valves that are not shown in Ishii provide a pressure relief to the sump when the pressure exceed the certain level. This is different from the claimed invention. Therefore, Claims 1 and 7 are allowable over the Ishii '229 patent.

Claims 5 and 8 have been rejected under 35 U.S.C. §103(a) over Ishii '229 in view of Hayashi et al Patent No. 6,209,675. This rejection is also traversed. First, it is noted above that Ishii '229 does not disclose a valve returning fluid from side of the hydraulic circuit to the other. The examiner acknowledges this in the first sentence of the rejection with respect to a "second valve." It is also noted that Ishii does not disclose each drive system "comprising a hydraulic pump driving a hydraulic motor through a set of hydraulic lines and a valve block connected to the set of hydraulic lines,".

The Hayashi '675 reference is relied upon to teach a valve connection the two sides of the loop. However, the Hayashi reference makes it clear that modulation relief valve 50, upon which the examiner relies, is not connected between the two sides of the circuit (namely the first main circuit 7 and second main circuit 8). Rather, "a return relief circuit 15b for the modulation relief valve 50 passes through the intake circuit 13 and is connected to the return circuit 11 going to the tank 9. The modulation relief valve 50 is activated when either the first main circuit 7 or the second main circuit 8 reaches or exceeds a prescribed pressure, regulating the circuit pressure and applying a break to the vehicle." Hayashi '675 patent, column 9, lines 6-12. This makes it clear that this valve in Hayashi is similar to that in Ishii '229, in that the pressure relief goes from one of the circuits to the tank 9 (or the main sump). The valve is not connected between the two circuit sides as required in Claim 5 or in Claim 8. Therefore, neither Ishii or Hayashi, either alone or in combination teaches or suggests all of the elements of the these claims. Therefore, Claims 1, 5, 7 and 8 are allowable over these references.

Claims 2, 4, 6, 9, and 10 have been indicated to contain allowable subject matter and therefore, these claims are allowable without amendment.

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Finally, it was noted in review of this application that Fig. 4 contained a minor error in that reference number "80" should have been "78" in order to make it consistent with the specification. A new Fig. 4 is being submitted herewith to correct this minor typographical error, with the correction being shown in red. A clean copy of Fig. 4 is also submitted. No new matter is introduced by this Amendment.

It is believed that Applicant has addressed all of the outstanding matters and it is requested that this application be granted a Notice of Allowance at the earliest possible date. Please contact the undersigned attorney if there are any questions.

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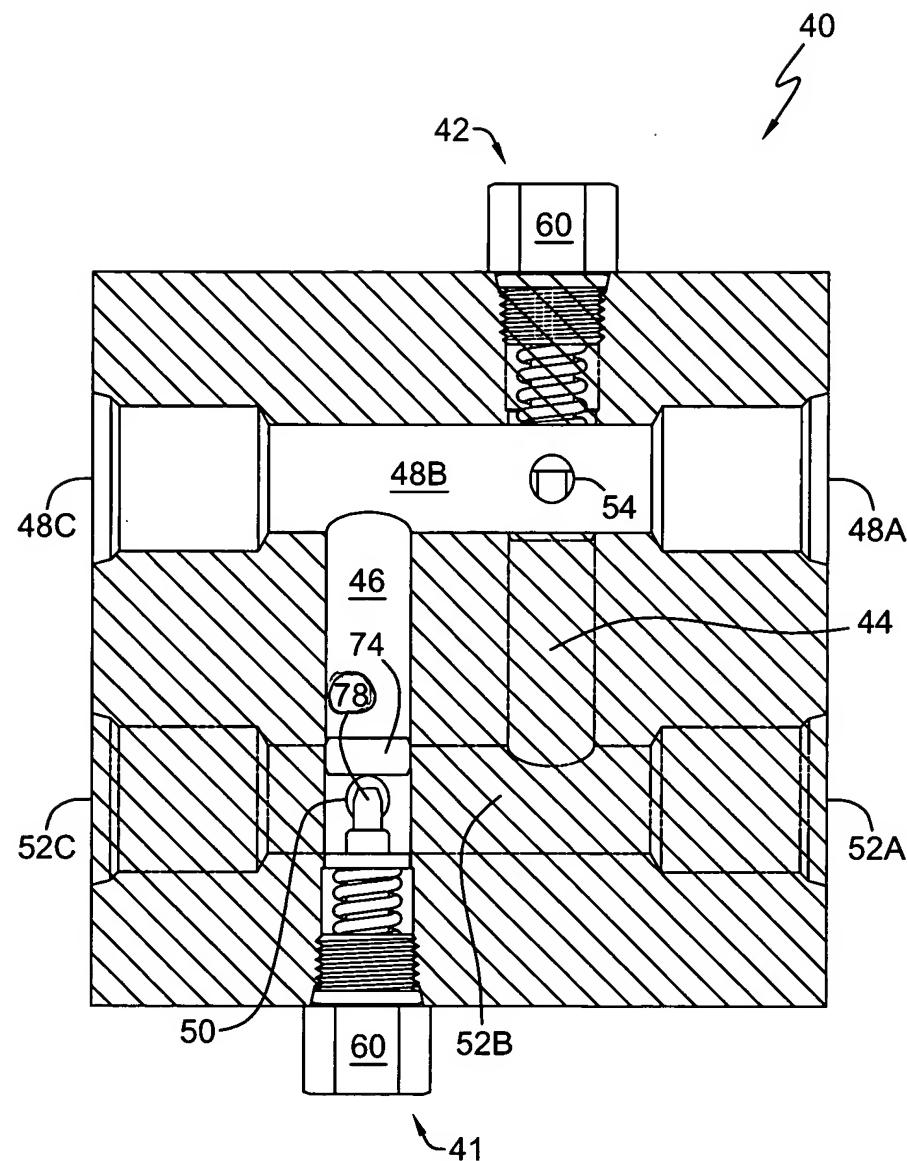


FIG. 4